86. The method of claim 83 in which the content storage and cut-through forwarding system comprises:

at least one input element connected to at least one store and forward element; and

at least one output element connected to the store and forward element.

87. The method of claim 86 in which the store and forward element maintains a local storage and a local buffer.

88. The method of claim 87 in which forwarding further comprises forwarding content stored in the local buffer.

89. The method of claim 88 further comprising forwarding content from the local storage if content is not residing in the local buffer.

90. The method of claim 87 in which the local buffer is a ring buffer.

91. The method of claim 83 in which the content is imported in real-time, less than real-time and/or faster than real-time.

92. The method of claim 86 in which the input element handles a plurality of streams.

93. The method of claim 86 in which the output element handles a plurality of streams.

94. The method of claim 86 in which the store and forward element handles a plurality of streams.

95. The method of claim 86 in which the output element reconstructs content in the event of an occurrence of an error.

96. The method of 95 in which the output element reads missing or corrupted data from the input element.

97. The method of 95 in which the output element reads redundancy information from the store and forward element to reconstruct the missing or corrupted content.

98. The method of claim 86 in which the store and forward element supports simultaneous store and forward.

99. The method of claim 86 in which the store and forward element reads content from the input element.

100. The method of claim 86 in which the content storage and cut-through forwarding system further comprises multiple input and output elements integrated with and distributed across multiple store and forward elements.

101. The method of claim 86 in which the input element segments content using a segmentation and redundancy process.

102. The method of claim 101 in which the input element transmits and distributes segments across multiple store and forward elements.

103. The method of claim 101 in which the segmentation and redundancy process is a RAID-0 process.

104. The method of claim 101 in which the segmentation and redundancy process is a RAID-1 process.

105. The method of claim 101 in which the segmentation and redundancy process is a RAID-2 process.

106. The method of claim 101 in which the segmentation and redundancy process is a RAID-3 process.

107. The method of claim 101 in which the segmentation and redundancy process is a RAID-4 process.

108. The method of claim 101 in which the segmentation and redundancy process is a RAID-5 process.

109. The method of claim 101 in which the segmentation and redundancy process is a RAID-6 process.

A1

110. The method of claim 101 in which the segmentation and redundancy process is a hybrid storage process.

111. The method of claim 101 in which the input element maintains a retransmission buffer.

112. The method of claim 111 in which the retransmission buffer is used to retransmit content segments on demand.

113. The method of claim 111 in which the retransmission buffer is used to retransmit content segments in response to failures in one or more store and forward elements.

114. The method of claim 86 in which the store and forward element includes a local subsystem utilizing fault tolerant and load balanced processes.

115. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-0.

116. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-1.

117. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-2.

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118. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-3.

119. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-4.

120. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-5.

A1

121. The method of claim 114 in which the fault tolerant and load balanced processes are RAID-6.

122. The method of claim 114 in which the fault tolerant and load-balanced processes are hybrid storage.

123. The method of claim 83 in which delivering further comprises composing the content.

124. The method of claim 123 in which composing comprises combining the content with additional content.

125. The method of claim 123 in which composing comprises a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing and splicing the content.

126. The method of claim 83 in which the delivered content is imported content and previously stored content.

127. The method of claim 126 in which imported content is content received in real-time.

128. The method of claim 126 in which imported content is content received in less than real-time.

129. The method of claim 126 in which imported content is content received in faster than real-time.

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130. The method of claim 126 in which imported content is a combination of content received in real-time, content received in less than real-time and content received in faster than real-time.

131. The method of claim 125 in which content is advertising.

132. The method of claim 83 in which delivering further comprises storing the content in a terminal system.

133. The method of claim 132 in which the terminal system comprises a content storage and cut-through forwarding system.

134. The method of claim 132 in which the terminal system is a set top device.

135. The method of claim 83 in which the content storage and cut-through forwarding system is contained in a terminal system.

136. The method of claim 135 in which the terminal system is a set top device.

137. The method of claim 83 in which delivery further comprises transitioning between previously stored content and content received in real-time.

138. The method of claim 83 in which delivery further comprises transitioning between previously stored content and content received in less than real-time.

139. The method of claim 83 in which delivery further comprises transitioning between previously stored content and content received in faster than real-time.

140. The method of claim 83 in which delivering further comprises transitioning between previously stored content and a combination of content received in real-time, less than real-time, and faster than real-time.

141. A storage and playback system comprising:

means for importing content from a plurality of sources;

means for storing the content in a content storage and cut-through forwarding system; and

means for delivering the content.

142. The system of claim 141 in which the means for storing further comprises a means for saving content in a plurality of content storage and cut-through forwarding systems.

143. The system of claim 141 in which the plurality of sources comprises a plurality of streams.

144. The system of claim 141 in which the means for delivering content is in response to a request.

145. The system of claim 141 in which the means for storing comprises:

at least one input element connected to at least one store and forward element; and

at least one output element connected to the store and forward element.

146. The system of claim 145 in which the store and forward element maintains a local storage and a local buffer.

147. The system of claim 146 in which the means for forwarding further comprises a means for forwarding content from the local buffer.

148. The system of claim 147 in which means for forwarding further comprises a means for forwarding content from the local storage if content is not residing in the local buffer.

149. The system of claim 147 in which the local buffer is a ring buffer.

150. The system of claim 146 in which the content is imported in real-time, less than real-time and/or faster than real-time.

151. The system of claim 145 in which the input element handles a plurality of streams.

152. The system of claim 145 in which the output element handles a plurality of streams.

153. The system of claim 145 in which the store and forward element handles a plurality of streams.

154. The system of claim 145 in which the output element reconstructs content in the event of an occurrence of an error.

155. The system of claim 154 in which the output element reads missing or corrupted data from the input element.

A1

156. The system of claim 154 in which the output element reads redundancy information from the store and forward element to recontruct the missing or corrupted content.

157. The system of claim 145 in which the store and forward element supports simultaneous store and forward.

158. The system of claim 145 in which the content storage and cut-through forwarding system further comprises multiple input and output elements integrated with and distributed across multiple store and forward elements.

159. The system of claim 145 in which the input element segments content using a means for segmentation and redundancy.

160. The system of claim 159 in which the means for segmentation and redundancy is a RAID-0 system.

161. The system of claim 159 in which the means for segmentation and redundancy is a RAID-1 system.

162. The system of claim 159 in which the means for segmentation and redundancy is a RAID-2 system.

163. The system of claim 159 in which the means for segmentation and redundancy is a RAID-3 system.

164. The system of claim 159 in which the means for segmentation and redundancy is a RAID-4 system.

165. The system of claim 159 in which the means for segmentation and redundancy is a RAID-5 system.

166. The system of claim 159 in which the means for segmentation and redundancy is a RAID-6 system.

A1

167. The system of claim 159 in which the means for segmentation and redundancy is a hybrid storage system.

168. The system of claim 145 in which the store and forward element includes a local subsystem utilizing a means for fault tolerance and load balancing.

169. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-0 system.

170. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-1 system.

171. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-2 system.

172. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-3 system.

173. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-4 system.

174. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-5 system.

175. The system of claim 168 in which the means for fault tolerance and load balancing comprises a RAID-6 system.

176. The system of claim 168 in which the means for fault tolerance and load balancing comprises a hybrid storage system.

177. The system of claim 141 in which the means for delivering further comprises means for composing content.

A1

178. The system of claim 177 in which means for composing comprises combining content with additional content.

179. The system of claim 177 in which means for composing comprises a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing and splicing content.

180. The system of claim 179 in which the content is advertising.

181. The system of claim 141 in which the delivered content is imported content and previously stored content.

182. The system of claim 181 in which the imported content is content received in real-time.

183. The system of claim 181 in which the imported content is content received in less than real-time.

184. The system of claim 181 in which the imported content is content received faster than real-time.

185. The system of claim 181 in which the imported content is a combination of content received in real-time, content received in less than real-time and content received faster than real-time.

186. The system of claim 141 in which the means for delivering further comprises storing content in a terminal system.

187. The system of claim 141 in which the means for delivering comprises transitioning between previously stored content and content received in real time.

188. The system of claim 141 in which the means for delivering comprises transitioning between previously stored content and content received in less than real-time.

189. The system of claim 141 in which the means for delivering comprises transitioning between previously stored content and content in faster than real-time.

190. The system of claim 141 in which the means for delivery comprises transitioning between previously stored content and a combination of content received in real-time, less than real-time, and faster than real-time.

191. The system of claim 186 in which the terminal system is a set top device.

192. The system of claim 141 in which the content storage and cut-through forwarding system is contained in a terminal system.

193. The system of claim 192 in which the terminal system is a set top device.

194. A network comprising:

a plurality of content storage and cut-through forwarding systems, the content storage and cut-through forwarding systems interconnected by one or more communications mechanisms; and

a management system to control the systems according to defined propagation and routing procedures controlling how and where content is stored and forwarded through the network as a whole.

195. The network of claim 194 in which the management system controls the import of content.

196. The network of claim 195 in which content is imported in real-time.

197. The network of claim 195 in which content is imported in less than real-time.

198. The network of claim 195 in which content is imported in faster than real-time.

199. The network of claim 195 in which content is imported as a combination of content imported in real-time, in less than real-time, and in faster than real-time.

A1

200. The network of claim 194 further comprising fault tolerant and load balanced processes in which content need only pass through the plurality of systems once as it is propagated to storages and delivered for presentation and use.

201. The network of claim 194 further comprising a means for delivering content.

202. The network of claim 200 in which the delivered content is composed content.

203. The network of claim 202 in which the composed content is content combined with additional content.

204. The network of claim 203 in which the composed content is a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing, and splicing content.

205. The network of claim 194 further comprising a means for routing of content whereby a subset of the systems compute and recompute optimal routes based on content availability and loading information collected from the systems.

206. The network of claim 205 in which the subset is a group of edge systems.

207. The network of claim 194 further comprising a means for delivering stored content on-demand to a subset of the systems.

208. The network of claim 194 further comprising a means for delivering content to a subset of the systems in which the content is composed content.

209. The network of claim 208 in which the composed content comprises a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing and splicing the content.

210. The network of claim 194 further comprising a means for delivering content segmented across the plurality of systems.

A1

211. The network of claim 194 in which the plurality of systems is multiply connected to provide for failure recovery and load balancing.

212. The network of claim 206 in which the subset is a plurality of terminal devices.

213. The network of claim 212 in which the terminal devices are set top boxes.

214. The network of claim 201 in which the means for delivering content comprises transitioning between previously stored content and content received in real time.

215. The network of claim 201 in which the means for delivering content comprises transitioning between previously stored content and content received in less than real time.

216. The network of claim 201 in which the means for delivering content comprises transitioning between previously stored content and content received faster than in real time.

217. The network of claim 201 in which the means for delivering content comprises transitioning between previously stored content and a combination of content received in real time, less than real time, and greater than real time.

218. A method comprising:

interconnecting in a network a plurality of content storage and cut-through forwarding systems by one or more communications mechanisms; and

controlling the systems according to defined propagation and routing procedures controlling how and where content is stored and forwarded through the network as a whole.

219. The method of claim 218 in which controlling further comprises importing content.

220. The method of claim 219 in which content is imported in real-time.

221. The method of claim 219 in which content is imported inless than real-time.

222. the method of claim 219 in which content is imported as a combination of content imported in real-time, in less than real-time, and in faster than real-time.

A1

223. The method of claim 218 further comprising employing fault tolerant and load balanced processes in which content received need only pass through the content storage and cut-through forwarding systems once as it propagates to storages and is delivered for presentation and use.

224. The method of claim 218 further comprising delievering the content.

225. The method of claim 218 further comprising routing content in which a subset of the content storage and cut-through forwarding systems compute and re-compute optimal routes based on content availability and collected loading information.

226. The method of claim 218 in which the subset is a group of edge systems.

227. The method of claim 226 in which the group includes one or more terminal devices.

228. The method of claim 227 in which the terminal device is a set top box.

229. The method of claim 218 further comprising storing content as it is delivered through the content storage and cut-through forwarding systems.

230. The method of claim 223 in which the delivered content is composed content.

231. The method of claim 230 in which the composed content is content combined with additional content.

232. The method of claim 231 in which the composed content is a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing, and splicing content.

233. The method of claim 218 further comprising delivering stored content on-demand to a subset of the systems.

A1 234. The method of claim 218 further comprising delivering content to a subset of the systems in which the content is composed content.

235. The method of claim 234 in which the composed content comprises a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing and splicing the content.

236. The method of claim 218 further comprising delivering content segmented across the plurality of systems.

237. The method of claim 234 in which the subset is a plurality of terminal devices.

238. The method of claim 237 in which the terminal devices are set top boxes.

239. The method of claim 224 in which delivering content comprises transitioning between previously stored content and content received in real time.

240. The method of claim 224 in which delivering content comprises transitioning between previously stored content and content received in less than real time.

241. The method of claim 224 in which delivering content comprises transitioning between previously stored content and content received faster than in real time.

242. The method of claim 224 in which delivering content comprises transitioning between previously stored content and a combination of content received in real time, less than real time, and greater than real time.

243. The method of claim 218 in which the content storage and cut-through forwarding systems are multiply connected to provide failure recovery and load balancing.

244. The method of claim 223 in which delivered content comprises transitioning between previously stored content and content received in real-time.

245. The method of claim 223 in which delivered content comprises transitioning between previously stored content and content received in less than real-time.

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246. The method of claim 223 in which delivered content comprises transitioning between previously stored content and content received in faster than real-time.

247. The method of claim 223 in which delivered content comprises transitioning between a combination of content received in real-time, less than real-time and greater than real-time.

248. The method of claim 218 in which content is stored in a terminal device.

249. The method of claim 248 in terminal device is a set top box.

250. The method of claim 218 in which the content is content received in real-time.

251. The method of claim 218 in which the content is content received in less than real-time.

252. The method of claim 218 in which the content is content received faster than in real-time.

253. The method of claim 218 in which the content is a combination of content received in real-time, content received in less than real-time and content received faster than in real-time.

254. A content/service handling and delivery method comprising:

generating an aggregate service from a plurality of services.

255. The method of claim 254 in which the aggregate includes advertising services.

256. The method of claim 255 in which the aggregate includes a combination of broadcast services, on-demand services and advertising services.

257. The method of claim 254 in which the plurality of services include interactive services.

258. The method of claim 254 in which the plurality of services reside in a content/service handling and delivery system.

259. The method of claim 254 in which the plurality of services reside in a network of content/service handling and delivery systems.

A1

260. The method of claim 254 in which a subset of the plurality of services resides in a content/service handling and delivery system.

261. The method of claim 254 in which a subset of the plurality of services resides externally to the content/service handling and delivery system.

262. The method of claim 254 in which a subset of the plurality of services resides in a terminal device.

263. The method of claim 262 in which the terminal device is a set top box.

264. The method of claim 260 in which the subset is accessed through a service gateway.

265. The method of claim 254 further comprising delivering the aggregate service to a terminal system.

266. The method of claim 265 in which the terminal system is a set top box.

267. The method of claim 254 further comprising delivering the aggregate service to a plurality of external systems.

268. The method of claim 267 further comprising delivering the aggregate service through a service gateway.

269. The method of claim 254 further comprising delivering the aggregate service to a content/service handling and delivery system.

270. The method of claim 254 further comprising delivering the aggregate service to a network of content/service handling and delivery systems.

271. The method of claim 254 in which generating an aggregate service is in response to a request.

A1

272. The method of claim 254 in which the aggregate service comprises output from the plurality of services.

273. The method of claim 254 in which the aggregate service further comprises content.

274. The method of claim 273 in which the content resides in a content/service handling and delivery system.

275. The method of claim 273 in which the content resides in a network of content/service handling and delivering system.

276. The method of claim 273 in which the content resides in a plurality of content/service handling and delivering system.

277. The method of claim 273 in which content resides in an external system accessed through a service gateway.

278. The method of 273 in which the content resides in a terminal system.

279. The method of claim 278 in which the terminal system is a set top box.

280. A content/service handling and delivery system comprising means for generating an aggregate service from a plurality of services.

281. The system of claim 280 in which the aggregate includes advertising services.

282. The system of claim 280 in which the aggregate includes a combination of broadcast services, on-demand services and advertising services.

283. The method of claim 280 in which a subset of the plurality of services resides in a terminal device.

284. The method of claim 282 in which the terminal device is a set top box.

A1

285. The system of claim 280 in which the plurality of services include interactive services.

286. The system of claim 280 in which the plurality of services reside in a content/service handling and delivery system.

287. The system of claim 280 in which a subset of the plurality of services resides in a content/service handling and delivery system.

288. The system of claim 280 in which a subset of the plurality of services resides externally to the content/service handling and delivery system.

289. The system of claim 280 in which the plurality of services reside in a network of content/service handling and delivery systems.

290. The system of claim 286 in which a subset of the plurality of services resides in an external system accessed through a service gateway.

291. The system of claim 280 further comprising means for delivering the aggregate service to a terminal device.

292. The system of claim 291 in which the terminal device is a set top box.

293. The system of claim 280 further comprising means for delivering the aggregate service to a plurality of external systems.

294. The system of claim 293 further comprising means for delivering the aggregate service through a service gateway.

295. The system of claim 280 further comprising means for delivering the aggregate service to a content/service handling and delivery system.

296. The system of claim 280 further comprising means for delivering the aggregate service to a network of content/service handling and delivery systems.

A1

297. The system of claim 280 further comprising means for delievering the aggregate servce to a terminal device.

298. The system of claim 297 in which the terminal device is a set top box.

299. The system of claim 280 in which the aggregate service comprises output from the plurality of services.

300. The system of claim 280 in which the aggregate service further comprises content.

301. The system of claim 300 in which the content resides in a content/service handling and delivery system.

302. The system of claim 300 in which the content resides in a network of content/service handling and delivery systems.

303. The system of claim 300 in which content resides in a plurality of content/service handling and delivery systems.

304. The system of claim 300 in which content resides in an external system accessed through a service gateway.

305. The system of claim 300 in which the content resides in a terminal system.

306. The system of claim 305 in which the terminal system is a set top box.

307. The system of claim 280 in which means for generating an aggregate service is in response to a request.

308. A content and service handling method comprising:

maintaining an inventory of advertising opportunities in content and services; and

binding inventory with advertising.

309. The method of claim 308 further comprising delivering the bound inventory.

310. The method of claim 308 in which the inventory is controlled by an entity.

311. The method of claim 310 in which the entity is a service provider.

312. The method of claim 310 in which the entity is a network affiliate.

313. The method of claim 310 in which the entity is a network provider.

314. The method of claim 310 in which the entity is a content provider.

315. The method of claim 308 in which the inventory is controlled by a plurality of entities.

316. The method of claim 308 in which different portions of the inventory are controlled by a plurality of entities.

317. The method of claim 316 further comprising binding advertising by an operator on behalf of the plurality of entities.

318. The method of claim 308 in which delivering is in response to a request for content.

319. The method of claim 308 in which delivering is in response to a request for services.

320. The method of claim 308 in which the delivering is in response to a request for content and services.

321. The method of claim 308 in which delivering further comprises composing content with the advertising.

322. The method of claim 321 in which composing comprises a combination of aggregating, assembling, enhancing, replacing, inserting, multiplexing and splicing the content.

323. The method of claim 308 in which advertising is delivered as a consequence of a user's use of content or services.

324. The method of claim 308 in which binding further comprises analyzing user information.

325. The method of claim 308 in which binding further comprises analyzing information about available advertising.

A1

326. The method of claim 308 in which binding further comprises analyzing information about a useful life of available advertising.

327. The method of claim 308 in which binding further comprises analyzing information about an intended audience of the advertising.

328. The method of claim 308 in which binding further comprises analyzing information about content and services with which the advertising is to be associated.

329. The method of claim 308 in which binding further comprises analyzing time and data information.

330. The method of claim 308 in which binding further comprises analyzing information about events affecting a user and the user's usage.

331. The method of claim 308 in which binding further comprises analyzing information about a user's usage of content and services.

332. The method of claim 308 in which binding further comprises analyzing information about expressed user preferences.

333. The method of claim 308 in which binding further comprises:

compiling a set containing a plurality of advertising for a user, each of the plurality of advertising having a computed value specific to the set; and

binding inventory with advertising from the set having the greatest value matching parameters of the inventory.

334. The method of claim 333 in which the parameters include content type, screen size, location and duration.

335. The method of claim 327 in which the information comprises a mailing list.

336. The method of claim 327 in which the information comprises a telephone list.

337. The method of claim 308 in which the advertising includes information relating to binding.

338. The method of claim 308 in which the advertising includes instructions relating to binding.

339. The method of claim 308 in which the advertising includes procedures relating to binding.

340. The method of claim 308 in which the advertising includes software programs relating to binding.

341. The method of claim 308 in which the advertising includes guidance information.

342. The method of claim 341 in which guidance information includes advertisement insertion information.

343. The method of claim 341 in which guidance information includes information about an intended audience.

344. The method of claim 343 in which the information about the intended audience includes a mailing list.

345. The method of claim 343 in which the information about the intended audience a phone list.

346. The method of claim 341 in which guidance information includes scheduling information.

A1

347. An interactive advertising system comprising:

a store of advertisements;

an inventory representing advertising opportunities in content and services; and

a service binding advertising to inventory.

348. The system of claim 347 further comprising a means for delivering the inventory bound with advertising to a terminal device.

349. The system of claim 348 in which the terminal device is a set top box.

350. The system of claim 347 in which the inventory is controlled by an entity.

351. The system of claim 350 in which the entity is a local network operator.

352. The system of claim 350 wherein the entity is a network affiliate operator.

353. The system of claim 350 in which the entity is a network operator.

354. The system of claim 350 in which the entity is a content provider.

355. The system of claim 347 in which the inventory is owned by a plurality of entities.

356. The system of claim 347 in which binding is multi-domain.

357. The system of claim 347 in which binding is in response to a mailing list.

358. The system of claim 347 in binding is in response to a telephone list.

359. The system of claim 347 in which the service binding advertising includes analyzing user information.

360. The system of claim 347 in which the service binding advertising includes analyzing information about available advertising.

361. The system of claim 347 in which the service binding advertising includes analyzing information about a useful life of advertising.

A1

362. The system of claim 347 in which the service binding advertising includes analyzing information an intended audience of advertising.

363. The system of claim 347 in which the service binding advertising includes analyzing information about content and services with which the advertising is to be associated.

364. The system of claim 347 in which the service binding advertising includes analyzing time and data information.

365. The system of claim 347 in which the service binding advertising includes analyzing information about events affecting a user and the user's usage.

366. The system of claim 347 in which the service binding advertising includes analyzing information about a user's usage of content and services.

367. The system of claim 347 in which the service binding advertising includes analyzing information about expressed user preferences.

368. The system of claim 347 in which a service binding advertising further comprises:

means for compiling a set containing a plurability of advertising for a user, each of the plurality of advertising having a computed value specific to the set; and

means for binding inventory with advertising from the set having the greatest value matching parameters of the inventory.

369. The system of claim 368 in which the parameters include content type, screen size, location and duration.

370. The system of claim 347 in which the advertising includes information relating to binding.

A1

371. The system of claim 347 in which the advertising includes instructions relating to binding.

372. The system of claim 347 in which the advertising includes procedures relating to binding.

373. The system of claim 347 in which the advertising includes software programs relating to binding.

374. The system of claim 347 in which the advertising includes guidance information.

375. The system of claim 374 in which guidance information includes advertisement insertion information.

376. The system of claim 374 in which guidance information includes information about an intended audience.

377. The system of claim 376 in which guidance information includes an address list.

378. The system of claim 376 in which guidance information includes a phone list.

379. The system of claim 374 in which guidance information includes scheduling information.